

PATENT

AMENDMENTS TO THE CLAIMS

Following is a complete set of claims as amended with this Response. This complete set of claims excludes cancelled claims 1 and 6 and includes amended claims 2, 5, 7, and 8.

1. (Cancelled)

2. (Currently Amended) The method of method claim 1 In an implantable cardiac stimulation device, a method comprising:  
detecting intrinsic atrial events based on an initial atrial sensitivity level;  
selectively delivering atrial pacing pulses to at least one atrium and monitoring for loss of capture of the atrial pacing pulses;  
increasing the atrial sensitivity level upon detecting a predetermined number of losses of capture and monitoring for lower-amplitude atrial events;  
if lower amplitude atrial events are detected, determining whether the lower amplitude atrial events are true intrinsic atrial events;  
if lower-amplitude atrial events are not detected, resetting the atrial sensitivity to the initial value; and  
controlling selected functions of the device based on any true intrinsic atrial events;  
wherein the device is capable of automatically switching between a tracking mode and a non-tracking mode and wherein controlling selected functions of the device further comprises:  
determining a filtered atrial rate interval (FARI value) based only on intrinsic atrial events; and  
controlling mode selection based on the FARI value.

PATENT

3. (Original) The method of claim 2 wherein controlling mode selection based on the FARI value comprises:

comparing the FARI value with an atrial tachycardia detection rate (ATDR) threshold;

if the FARI value exceeds the ATDR threshold while the device is in the tracking mode, switching to the non-tracking mode; and

if the FARI value falls below the ATDR threshold while the device is in the non-tracking mode, switching to the tracking mode.

4. (Original) The method of claim 3 wherein determining whether the lower amplitude atrial events are true intrinsic atrial events comprises:

detecting ventricular events;

determining a degree of variability to an interval between atrial events and ventricular events; and

if the degree of variability exceeds a variability threshold, identifying the atrial events as intrinsic atrial events; and

if the degree of variability falls below the variability threshold, ignoring the atrial events.

5. (Currently Amended) The method of method claim 4 2 wherein controlling selected functions of the device further comprises:

inhibiting generation of atrial pacing pulses if the lower-amplitude atrial events are identified as true intrinsic atrial events due to possible atrial tachycardia.

6. (Cancelled)

7. (Currently Amended) ~~The pacing system of claim 6 in an implantable cardiac stimulation device, a pacing system comprising:~~  
an atrial sensing system operative to detect atrial events;

PATENT

an atrial pacing system operative to deliver atrial pacing pulses;  
an automatic capture detection system operative to detect loss of capture of the  
atrial pacing pulses; and  
an atrial tachycardia detection system operative to increase a sensitivity by which  
the atrial sensing system detects atrial events upon detection of a predetermined  
number of losses of capture and to detect atrial tachycardia based on lower amplitude  
atrial events detected using the increased sensitivity;

wherein the system is capable of operating in a tracking mode and a non-tracking mode and wherein the system further includes:

a filtered atrial rate interval (FARI) detection system operative to determine a filtered atrial rate based on only atrial-sensed events; and  
an automatic mode switching system operative to determine whether to switch tracking modes based on the FARI.

8. (Currently Amended) In an implantable cardiac stimulation device, a pacing system comprising:

means for detecting atrial events;  
means for delivering atrial pacing pulses;  
means for detecting loss of capture of the atrial pacing pulses;  
means for increasing a sensitivity by which the atrial events are sensed upon detection of a predetermined number of losses of capture; and  
means for detecting atrial tachycardia based on lower amplitude atrial events detected using the increased sensitivity;  
wherein the device is capable of automatically switching between a tracking mode and a non-tracking mode and wherein controlling selected functions of the device further comprises:  
means for determining a filtered atrial rate interval (FARI value) based only on intrinsic atrial events; and  
means for controlling mode selection based on the FARI value.